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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/447,472	11/23/1999	JAMES B. ARMSTRONG	SEDN/049	3863

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WALL & TONG, LLP/
SEDNA PATENT SERVICES, LLC
595 SHREWSBURY AVENUE
SUITE 100
SHREWSBURY, NJ 07702

EXAMINER

CHOWDHURY, SUMAIYA A

ART UNIT	PAPER NUMBER
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2421

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02/03/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 09/447,472	Applicant(s) ARMSTRONG ET AL.	
	Examiner SUMAIYA A. CHOWDHURY	Art Unit 2421	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 November 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 6-8, 19, 21-25 and 27-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-8, 19, 21-25, 27-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-4, 6-8, 19, 21-25, and 27-34 have been considered but are moot in view of the new ground(s) of rejection.
2. Applicant's arguments filed 11/11/08 have been fully considered but they are not persuasive.
- (a) Applicant argues "...Applicant respectfully note that ...Applicants' claim 26...".

The Examiner agrees and has therefore withdrawn the previous rejection.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
4. Claims 1-4, 6-8, 19, and 21-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ueno and Wahl (5898456) in view of Enoki (5873085).

As for claim 1, Ueno discloses in an interactive information distribution system including a network of provider equipment (1002) and subscriber equipment (1008, 1009), apparatus comprising:

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a plurality of head-ends (1001, 1005, 1006, fig. 10) coupled to subscriber equipment (STUs, 1010-1013) via an access network (1008), the head-ends coupled to each other via an inter-server network (1002), each of said the head-ends comprising: a server (1001, 1005, 1006) for distributing requested video assets to requesting subscriber equipment via the access network (Referring to the Abstract, Ueno teaches at least one center server exists, hence there are a plurality of center servers. col. 18, lines 21-30, lines 58-63);

a storage having a primary storage partition for storing frequently requested video assets, and a secondary storage partition for storing infrequently requested video assets, the infrequently requested video assets being distributed amongst said the secondary partitions of the storage (Referring to col. 21, lines 42-51, Ueno teaches the local server and center server can be combined to be housed in one physical unit. Since the center server stores the low frequency requested videos, and the local server stored the high frequency requested videos, as one physical unit, the two servers would be two distinct partitions.);

However, Ueno fails to teach:

a manager for managing migration of video assets, wherein the manager tracks asset request rates and threshold rates of respective video assets;

wherein the manager, in response to an infrequently requested video asset becoming frequently requested, selects ones of the storage to store the frequently requested video asset and transmits the frequently requested video asset to the

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selected ones of the storage devices for storage in associated primary storage partitions;

wherein the manager, in response to a frequently requested video asset becoming infrequently requested, selects one of the storage devices to store the infrequently requested video asset and provides the infrequently requested video asset to the selected one of the head-ends for storage in an associated secondary storage partition; and

when the video asset becomes frequently requested, selecting a plurality of head-ends to store the video asset, and when the video asset becomes infrequently requested, selecting one head-end to store the video asset.

In an analogous art, Wahl teaches

a manager (control facility) for managing migration of video assets, wherein the manager tracks asset request rates and threshold rates of respective video assets (col. 6, lines 1-26);

wherein the manager, in response to an infrequently requested video asset becoming frequently requested, selects ones of the storage to store the frequently requested video asset and transmits the frequently requested video asset to the selected ones of the storage for storage in associated primary storage partitions (col. 6, lines 1-26, col. 4, lines 47-67);

wherein the manager, in response to a frequently requested video asset becoming infrequently requested, selects one of the storage to store the infrequently requested video asset and provides the infrequently requested video asset to the

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selected one of the storage in an associated secondary storage partition (col. 6, lines 1-26, col. 4, lines 47-67).

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify Ueno's invention to include the above mentioned limitation, as taught by Wahl, for the advantage of configuring the storage device to match consumer demand.

However, Ueno and Wahl fail to teach:

when the video asset becomes frequently requested, selecting a plurality of head-ends to store the video asset, and when the video asset becomes infrequently requested, selecting one head-end to store the video asset.

In an analogous art, Enoki teaches:

when the video asset becomes frequently requested, selecting a plurality of head-ends to store the video asset, and when the video asset becomes infrequently requested, selecting one head-end to store the video asset (col. 29, lines 58- col. 30, line 44).

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify Ueno and Wahl's invention to include the above mentioned limitation, as taught by Enoki, for the advantage of achieving effective utilization of storage space and for distributing system workload.

Claim 2 contains the limitations of claim 1 and is analyzed as previously discussed with respect to that claim.

As for claim 3, Wahl teaches in response to a request for a video asset received from requesting subscriber equipment, the manager controls distribution of the requested video asset from-one of the head-ends identified as storing the requested video asset to the requesting subscriber equipment (col. 4, lines 1-14).

As for claims 4 and 22, Ueno teaches the manager comprises:
a content manager, for receiving the request for the video asset and determining whether the requested video asset is stored locally in the storage of that head-end (1005, col. 19, lines 37-43) at which the video asset request is received (local server 1005 and service control unit 1007 are a single unit; col. 21, lines 43-52) or stored remotely in the storage of a different head-end; a stream session manager, for directing the associated server to distribute streams of video assets to subscriber equipment requesting said the video assets; and a content session manager, for responding to video asset requests forwarded from managers of other ones of the head-ends (col. 19, lines 20-55).

As for claim 6, Ueno teaches wherein a content manager of a local head-end at which a video asset request is received, in response to determining that a requested video asset is stored locally, notifies the stream session manager to deliver the

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requested video asset to the local server for transmission by the local server to the requesting subscriber equipment via the access network (col. 19, lines 20-55).

As for claim 7, Ueno teaches wherein the content manager of a local head-end at which a video asset request is received, in response to determining that a requested video asset is stored remotely in the storage of a remote head-end, instructs the stream session manager of the local head-end to contact the content session manager of the remote head-end (The local server 1005 and service control unit 1007 are one combined unit – col. 21, lines 43-50. A user request is received at the service control unit 1007 which determines where the requested video is stored - col. 19, lines 20-50. If it is determined that the video is stored remotely at server 1001, the video is requested from there and transmitted to the user).

As for claim 8, Ueno teaches wherein the content session manager of the remote head-end identifies the requested video asset in the storage of the remote head-end, allocates bandwidth for transmitting the requested video asset, and, in response to a determination that the requested video asset is to be provided from the remote head-end to the requesting subscriber equipment via the local head-end, notifies the server of the remote head-end to transmit the requested video asset to the local head-end using the inter-server network - col. 21, lines 43-50, col. 19, lines 20-50, col. 18, lines 21-57.

Claim 19 contains the limitations of claim 1 and is analyzed as previously discussed with respect to that claim. Claim 19 additionally calls for the following which Wahl teaches:

determining an asset request rate for each of said the video assets stored in each head-end; comparing the determined asset request rates with respective threshold rates of each of the video assets (col. 5, line 56-col. 6, line 26);

Claim 21 contains the limitations of claim 1 and is analyzed as previously discussed with respect to that claim.

As for claim 23, Ueno discloses wherein the identified head-end is the local head-end (1005) coupled directly to the requesting subscriber equipment, the local head-end provides the requested video asset to the requesting subscriber equipment via the access network (1008) – col. 19, lines 20-50, col. 21, lines 43-53.

As for claims 24, Ueno discloses wherein, the identified head-end is one of the remote head-ends, the local head-end requests the requested video asset from the remote head-end and the remote head-end provides the requested video asset to the local head-end via an inter-server network (The local server 1005 and service control unit 1007 are one combined unit – col. 21, lines 43-50. A user request is received at the service control unit 1007 which determines where the requested video is stored - col.

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19, lines 20-50. If it is determined that the video is stored remotely at server 1001, the video is requested from there and transmitted to the user).

5. Claims 25, 27-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ueno, Wahl, and Enoki in view of Sato (6173328).

Claim 25 contains the limitations of claims 1 and 4 and is analyzed as previously discussed with respect to those claims. Claim 25 additionally calls for the following which Sato discloses:

A content session manager for receiving asset requests forwarded from other ones of the head-ends, identifying and retrieving requested video assets requested by content managers of other ones of the head-ends, and providing requested video assets to the other ones of the head-ends (col. 6, lines 16-29).

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify Ueno, Wahl, and Enoki's invention to include the above mentioned limitation, as taught by Sato, for the advantage of effectively utilizing storage space amongst servers.

As for claim 27, Ueno discloses wherein the identified head-end is the local head-end (1005) coupled directly to the requesting subscriber equipment, the local head-end provides the requested video asset to the requesting subscriber equipment via the access network (1008) – col. 19, lines 20-50, col. 21, lines 43-53.

As for claim 28, Ueno discloses wherein, the identified head-end is one of the remote head-ends, the local head-end requests the requested video asset from the remote head-end and the remote head-end provides the requested video asset to the local head-end via an inter-server network (The local server 1005 and service control unit 1007 are one combined unit – col. 21, lines 43-50. A user request is received at the service control unit 1007 which determines where the requested video is stored - col. 19, lines 20-50. If it is determined that the video is stored remotely at server 1001, the video is requested from there and transmitted to the user).

As for claim 29, Ueno discloses wherein the content session manager of the remote head-end identifies the requested video asset in the storage of the remote head-end and allocates bandwidth for transmitting the requested video asset (When a user requests a VOD program, bandwidth is allocated. – col. 18, lines 21-57, col. 19, lines 20-56).

As for claim 30, Ueno teaches in response to a determination that the requested video asset is to be provided from the remote head-end to the requesting subscriber equipment via the local head-end, the content session manager of the remote head-end notifies the server of the remote head-end to transmit the requested video asset to the local head-end- (One the basis of the directions by the server resources management

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control unit 1003, a video is transmitted, via channels 1019 (connection between local head-end and STB) to STUs – col. 18, lines 20-35, col. 19, lines 20-50).

As for claim 31, Ueno teaches in response to a determination that the server of the local head-end is available to receive the requested video asset from the remote head-end, the server of the remote head-end streams the requested video asset to the local head-end over the inter-server network – Fig. 10, col. 19, lines 20-50, col. 21, lines 40-55, col. 18, lines 20-32.

As for claim 32, Ueno teaches wherein the server of the local head-end received the requested video asset from the server of the remote head-end, wherein the received video asset is stored in the storage (buffer) of the local head-end – col. 18, lines 21-57, col. 19, lines 20-50.

As for claim 33, Ueno teaches in response to a determination that the requested video asset is to be provided directly from the remote head-end to the requesting subscriber equipment, the content session manager of the remote head-end requests the stream session manager of the remote head-end to allocate bandwidth for providing the requested video asset to the requesting subscriber equipment– col. 18, lines 21-57, col. 19, lines 20-50.

As for claim 34, Ueno teaches wherein the stream session manager of the remote head-end notifies the server of the remote head-end to stream the requested video asset to the requesting subscriber equipment— col. 18, lines 21-57, col. 19, lines 20-50.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SUMAIYA A. CHOWDHURY whose telephone number is (571)272-8567. The examiner can normally be reached on Mon-Fri, 9-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Miller can be reached on (571) 272-7353. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/John W. Miller/

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Supervisory Patent Examiner, Art Unit 2421

/Sumaiya A Chowdhury/
Examiner, Art Unit 2421